## Message

Takaba, Richard R [richard.takaba@doh.hawaii.gov] From:

7/29/2016 4:16:56 AM Sent:

To: Pallarino, Bob [Pallarino.Bob@epa.gov]; Whittier, Robert [Robert.Whittier@doh.hawaii.gov];

steven.chang@doh.hawaii.gov; roxanne.kwan@doh.hawaii.gov; Frazier, William Mark

[william.frazier@doh.hawaii.gov]; Perry, Thu [Thu.Perry@doh.hawaii.gov]; Linder, Steven [Linder.Steven@epa.gov]

CC: Heu, Randall [randall.heu@doh.hawaii.gov] Subject: RE: R. Whittier Review of Revised MWIPWP

Attachments: RBW\_Comments on Red Hill AOC SOWs\_DRAFT\_7-13-16 -RT mod.docx

Hi Bob, I tried to modify Bob W's comments with comments I thought should be included from Mark F. Bob W, that was an excellent and educational analysis. I printed the original for myself. Thank you!

Rich

From: Pallarino, Bob [mailto:Pallarino.Bob@epa.gov]

**Sent:** Thursday, July 28, 2016 6:47 AM

To: Whittier, Robert <Robert.Whittier@doh.hawaii.gov>; Takaba, Richard R <richard.takaba@doh.hawaii.gov>; Chang, Steven Y <steven.chang@doh.hawaii.gov>; Kwan, Roxanne S <roxanne.kwan@doh.hawaii.gov>; Frazier, William Mark <william.frazier@doh.hawaii.gov>; Perry, Thu <Thu.Perry@doh.hawaii.gov>; Linder, Steven <Linder.Steven@epa.gov> Subject: RE: R. Whittier Review of Revised MWIPWP

DOH,

I am doing my own review of the plan revisions today. I agree with Bob W's approach on these two issues. The surveying comment can be included in our review of the Section 6 & 7 SOW. Regarding the sampling, I would say to let them perform all of the tests, even if the results would be questionable for the reasons Bob W states. As long as the tests are not a waste of resources the data produced may prove useful in some capacity in the future.

I will put together an initial draft letter on the MWIWP revision by COB today and send it to DOH for review.

Regarding the Section 6&7 SOW, I read most of it once and I need to go over it again. We need to schedule a meeting to discuss our comments. Are you all available on Wednesday August 3 from 9:30 am to 11:30 am for a conference call? I will secure a conference line.

Bob

**Bob Pallarino** U.S. EPA Region 9 **Underground Storage Tank Program Office** Land Division LND-4-3 75 Hawthorne Street San Francisco, CA 94105 (415) 947-4128 pallarino.bob@epa.gov

From: Whittier, Robert [mailto:Robert.Whittier@doh.hawaii.gov]

Sent: Tuesday, July 26, 2016 12:43 PM

**To:** Takaba, Richard R <<u>richard.takaba@doh.hawaii.gov</u>>; Pallarino, Bob <<u>Pallarino.Bob@epa.gov</u>>; <u>steven.chang@doh.hawaii.gov</u>; <u>roxanne.kwan@doh.hawaii.gov</u>; <u>Frazier</u>, William Mark <<u>william.frazier@doh.hawaii.gov</u>>; <u>Perry</u>, Thu <<u>Thu.Perry@doh.hawaii.gov</u>>

Subject: Review of Revised MWIPWP

Hi All,

I bounced our comments against the revised MWIWP and have two comments:

## 1) Section 3.5 Surveying, Page 3-13, Lines 7-17

This section references a USGS publication (Kenney, 2010) as demonstrating their survey will obtain a very high level of horizontal and vertical accuracy. The concern for Red Hill is obtaining vertical accuracies referenced to a common datum over long distances. Kenney (2010) gives procedures for surveying stream gaging stations and procedures are given that would meet the survey requirements of the Red Hill observation well network.

## 2) Section 5, Table 5-2, page 5-3

This table lists the geotechnical analysis that will be run on the unconsolidated samples. The analysis for; effective porosity, permeability, volumetric water content, and bulk density require undisturbed cores. The soil samples collected using a split spoon sampler in a hollow stem auger will be compressed severely biasing the results of these tests. The most useful test listed is the grain size distribution. The other tests, while interesting for other uses, likely will have no bearing on the Red Hill hydrologic analysis.

Whether these comments should be passed back to Navy is an open question. Comment 1) is likely best addressed in the SOW/WP comments. I added more detail in my SOW/WP comments and the POC for the National Geodetic Survey. On Comment 2) is does no harm to do the test, but it (as does comment 1) seems to show a lack of understanding on the part of the WP authors about soil science and the requirements for getting good data.

Thanks, Bob W.